



# **Ag Power & Controls**

***Agri-Business Automation***

## **Ag Tracker User Manual**

AgPAC  
Bowling Green, OH  
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## 1. Introduction

The AgTrack program provides a means of recording harvest yields for a grain farming operation. The system produces reports of crop yield by field and/or by owner for each crop harvest. The reports provide documentation of yields for distribution to members of the farm partnership, landlords and for crop insurance purposes. Information for past harvests are retained in the system to allow for comparison of yields of the recorded harvests.

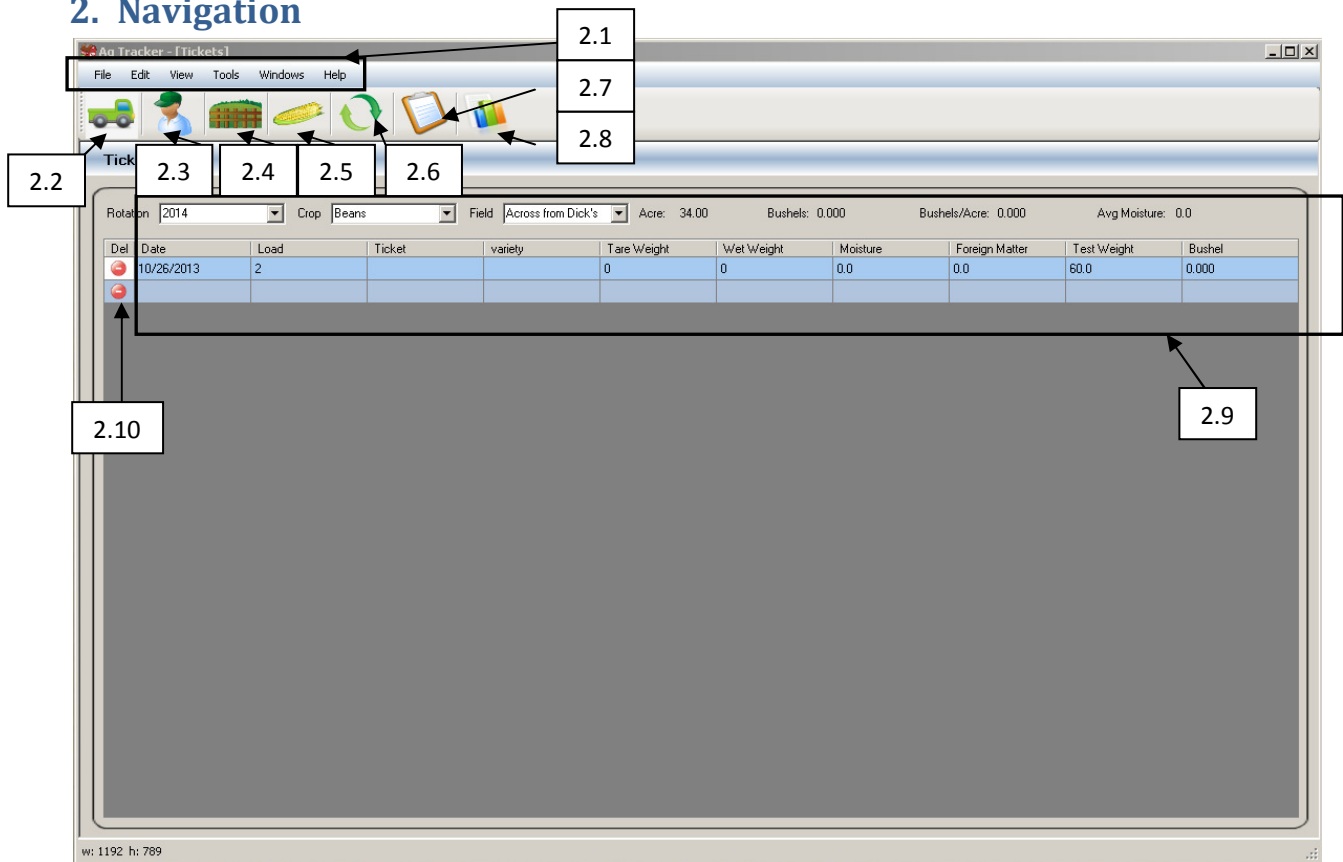
The user identifies defines fields, owners and crops to be grown. The user then selects fields which are a part of the selected rotation (crop year). Ownership and a crop is then entered for each of the selected fields. Scale weigh tickets may then be entered for each field. The system calculates the harvest yield for the field including total dry bushels harvested and bushels per acre. The system also tracks the dry bushels harvested for each owner/landlord based on the percentage of ownership entered for the field. The bushel calculation includes shrinkage conversion based on wet weight entered and data entered for the crop. The system includes capabilities to copy rotations (field, owner and crop definitions) from one year to another which significantly reduces the amount of data entry required.

A means of interfacing the system with a scale is in development to automate entry of scale weigh tickets.

The system has been tested and has been proven to be accurate and easy to use. Reports and displays produced provide an excellent tool for tracking yield and fulfills the documentation requirements for landlords and crop insurance representatives.

This document provides further explanation of how the system works, displays provided to enter information and of the reports provided.

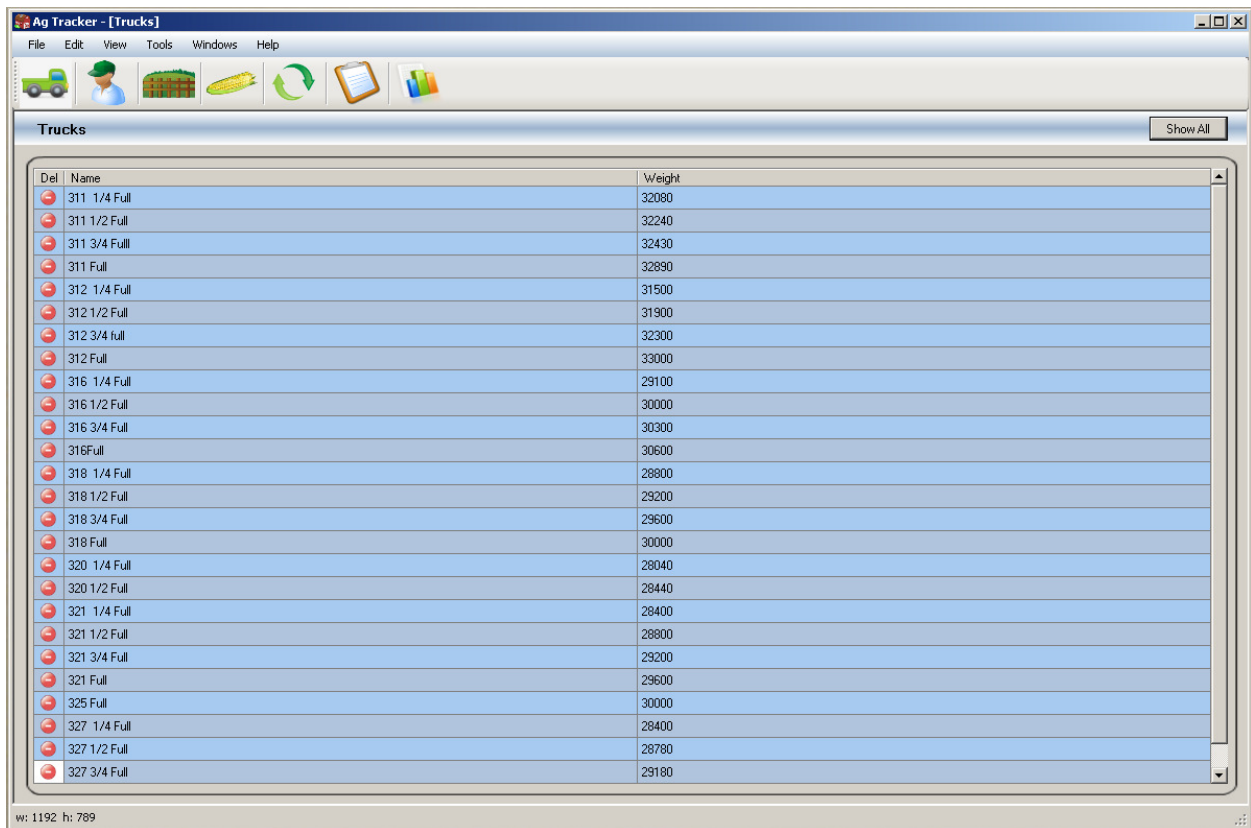
## 2. Navigation



The display shown above is the opening display when the AgTrack application is first started. The following identifies controls that are provided on each display of the system for the purpose of moving between the various displays provided.

- 2.1. Menu Bar - Menu of various typical windows related functions
- 2.2. Truck Shortcut - Navigation to data entry for truck description and associated tare weight.
- 2.3. Farmer Shortcut - Navigation to data entry for Farmer Definition.
- 2.4. Fields Shortcut - Navigation to data entry for Field Definition.
- 2.5. Crop Shortcut - Navigation to data entry for Crop Definition.
- 2.6. Rotation Shortcut - Navigation to data entry for selection of fields, owners and crop for rotation.
- 2.7. Tickets Shortcut - Navigation to data entry for scale tickets.
- 2.8. Reports Shortcut - Navigation to select reports and report filters
- 2.9. Scale ticket display area for display of scale tickets associated with selected rotation, crop and field.
- 2.10. Delete Button - deletes associated object

### 3. Trucks



The screenshot shows the 'Ag Tracker - [Trucks]' window. It has a menu bar with 'File', 'Edit', 'View', 'Tools', 'Windows', and 'Help'. Below the menu bar is a toolbar with icons for a truck, a person, a field, a corn cob, a circular arrow, a clipboard, and a bar chart. The main area is titled 'Trucks' and contains a table with three columns: 'Del', 'Name', and 'Weight'. The table lists 30 trucks, each with a red circular delete icon in the 'Del' column. The 'Name' column contains descriptions like '311 1/4 Full', '311 1/2 Full', etc. The 'Weight' column contains numerical values like 32080, 32240, etc. A 'Show All' button is located in the top right corner of the table area. The status bar at the bottom left shows 'w: 1192 h: 789'.

Del	Name	Weight
	311 1/4 Full	32080
	311 1/2 Full	32240
	311 3/4 Full	32430
	311 Full	32890
	312 1/4 Full	31500
	312 1/2 Full	31900
	312 3/4 Full	32300
	312 Full	33000
	316 1/4 Full	29100
	316 1/2 Full	30000
	316 3/4 Full	30300
	316 Full	30600
	318 1/4 Full	28800
	318 1/2 Full	29200
	318 3/4 Full	29600
	318 Full	30000
	320 1/4 Full	28040
	320 1/2 Full	28440
	321 1/4 Full	28400
	321 1/2 Full	28800
	321 3/4 Full	29200
	321 Full	29600
	325 Full	30000
	327 1/4 Full	28400
	327 1/2 Full	28780
	327 3/4 Full	29180

The Trucks display provides a list of trucks that have been defined for use by the system. The list contains an identification of the truck and tare weight associated with the truck. Trucks are defined and then selected as a part of the ticket data entry as a convenience to recall a tare weight of the truck for the harvested load.

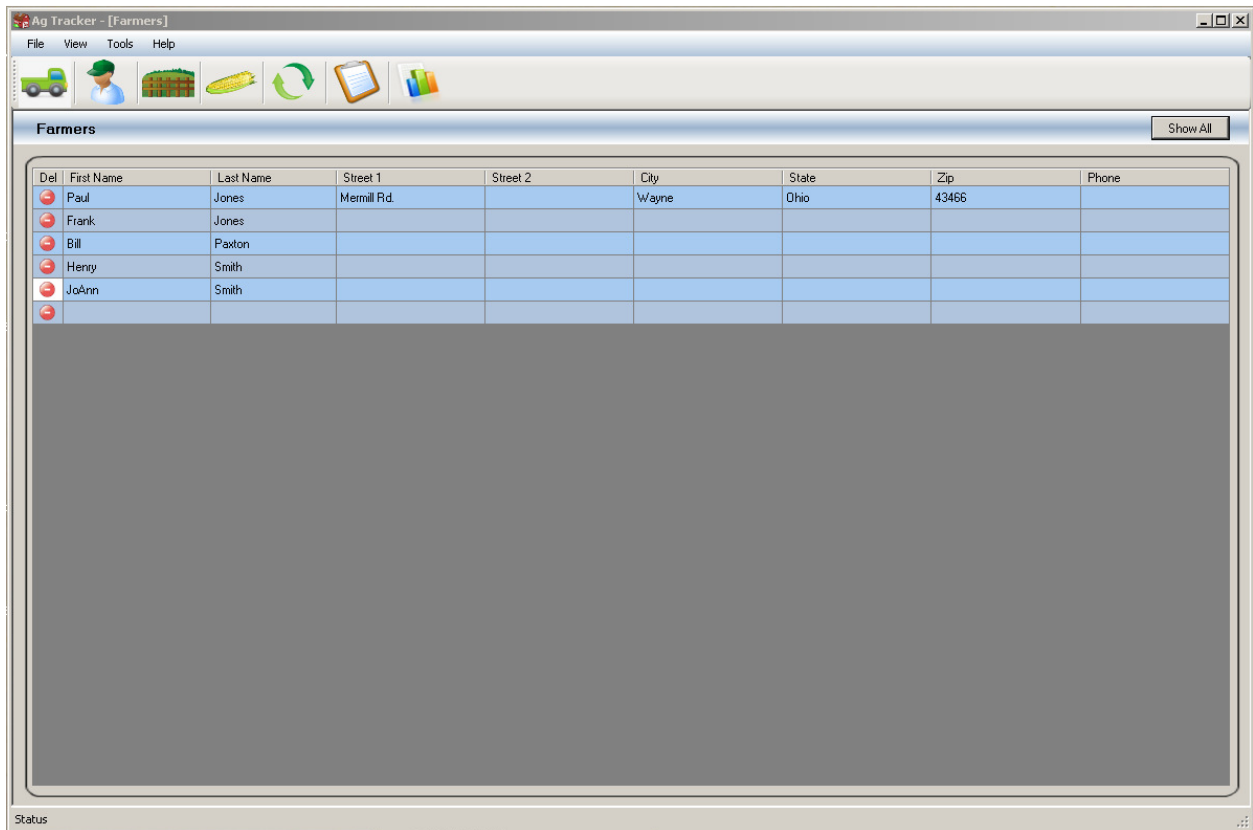
Truck information included is as follows:







- The red circle to the left of each truck description is used to delete the truck from the system.

- Name - Number or Description of truck

- Tare Weight – Estimated weight of the empty truck

## 4. Farmers

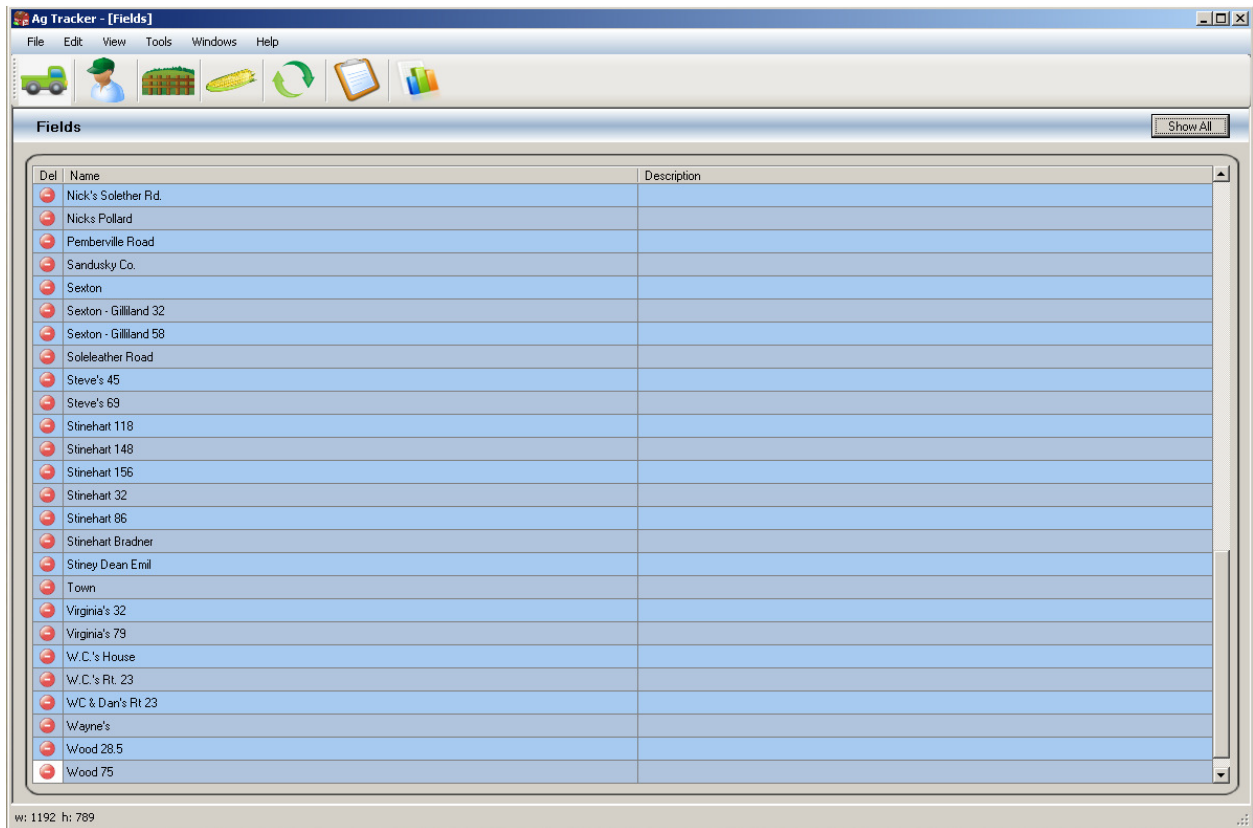


Del	First Name	Last Name	Street 1	Street 2	City	State	Zip	Phone
	Paul	Jones	Merrill Rd.		Wayne	Ohio	43466	
	Frank	Jones						
	Bill	Paxton						
	Henry	Smith						
	JoAnn	Smith						
								

The Farmers display is a listing of the farmers or owners that have been defined for use by the system. Farmers identified in this list can then be selected in the Crop Rotation to define fields for which they are entitled to partial or full credit for the crops harvested from the field. Farmers may include land owners that are share cropping. Address information is not required but may be entered for record keeping purposes.

The red circle to the left of each owner is used to delete the owner from the system.

## 5. Fields



The Fields display is a listing of the fields that have been defined for use by the system. Fields identified in this list can then be selected in the Crop Rotation to become part of the rotation. Fields are identified for convenience in the selection process for crop rotation and reporting.

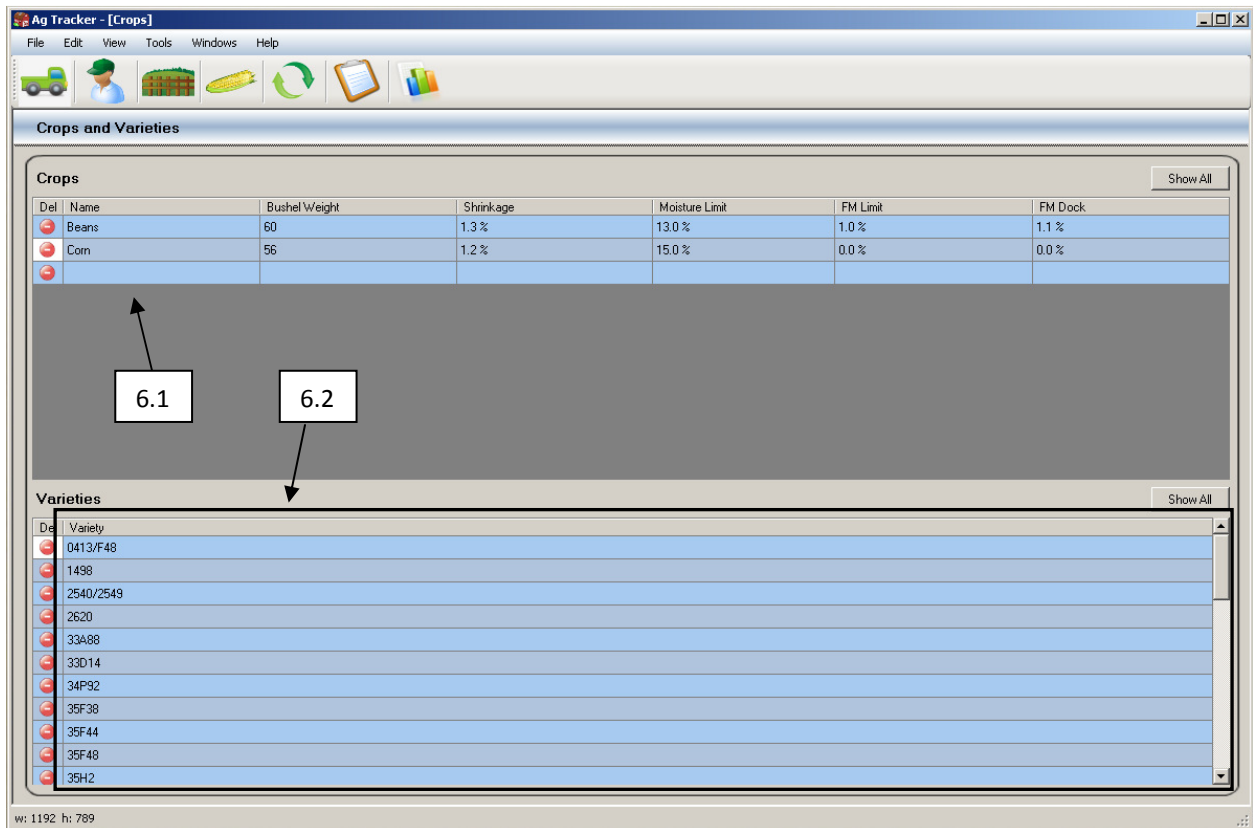
The red circle to the left of each field is used to field the owner from the system.

Field Information includes the following:

- Field Name - Unique name for the field

- Field Description - General description of the field for identification purposes

## 6. Crops



The Crops display provides definition of the crops grown on the user's farm. Crops identified in this list can then be selected for a field in the Crop Rotation. The information included in the crop definition is used by the system for shrinkage and bushel calculations.

6.1. Information included in crop definition area is as follows:

Crop Name – Unique name for crop.

Bushel Weight – pounds per bushel, used by the system to convert dry weight to bushels.

Shrinkage - % of shrink per % of moisture over moisture limit, used by the system to convert net wet weight to dry weight.

Moisture Limit – Maximum allowable moisture to avoid shrinkage

FM Limit – Maximum allowable foreign matter to avoid dock

FM Dock - % dock per % foreign matter over FM Limit

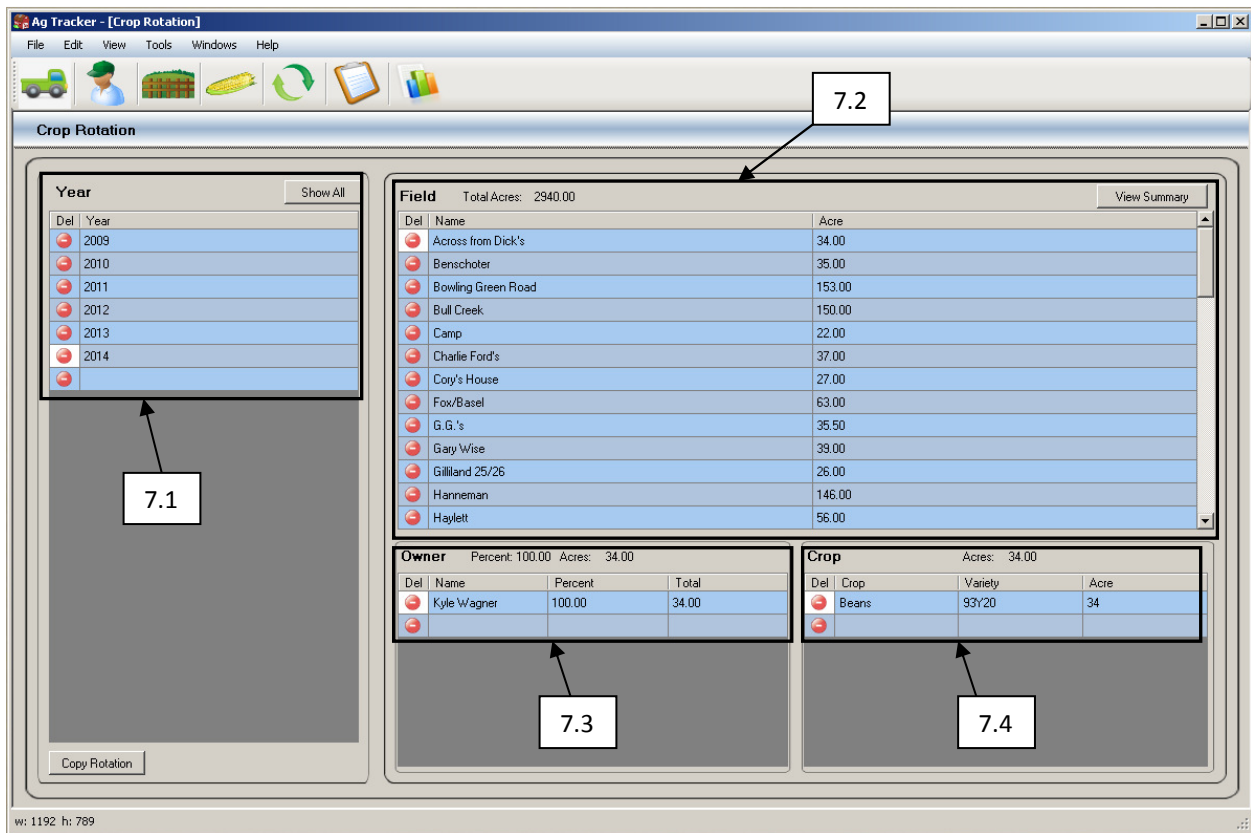
The red circle to the left of each variety is used to delete the variety from the system.

6.2. The Variety definition area is used to define the varieties grown on the users farm for the crop selected above.

The red circle to the left of each variety is used to delete the variety from the system.



## 7. Rotation (Crop Year)



The Fields display is a listing of the fields that have been defined for use by the system. Fields identified in this list can then be selected in the Crop Rotation to become of the rotation. Fields are identified for convenience in the selection process for crop rotation and reporting.

- 7.1. Rotation List – This area is a list of all Rotations that have been defined in the system. Existing rotations can be renamed by clicking on the name. A new rotation can be created by clicking in the empty box at the bottom of rotation list. The user may copy an existing rotation to a new rotation by selecting the rotation to be copied then clicking on the “Copy Rotation” button at the bottom of the Rotation List area.

Del - Click on red circle to delete the field from the rotation.

Year - User entered name of the rotation

- 7.2. Field List – This area is a list of all Fields that have been defined for the rotation.

Header

Total Acres – Total number of acres which is calculated by the system for all fields in selected Rotation.

View Summary - Click on this to display a summary for the rotation.

Table

Del - Click on red circle to delete the field from the rotation

Name – Name of field that is selected to be a part of rotation.

The user can add a field to the rotation by scrolling to the bottom of the list, clicking in the empty box and selecting a field from a pull-down list.  
Acre – Acreage of the field which is entered by the user.

- 7.3. Owner List – This area is a list of owners for the field selected in the Field List for the rotation selected in the Rotation List.

Header

Percent – Calculated percentage total of assigned ownership for the field.

Acre – Calculated acreage total of assigned ownership for the field.

Table

Del - Click on red circle to delete the field from the rotation

Name - The user selects an owner from a pull-down list by clicking in “Name” box.

Percent - User entered selected owner’s percentage of ownership for the field.

Acre – Calculated acres owned for the selected owner for the selected field based on the user entered percentage.

- 7.4. Crop List – This area is a list of crops grown in the field selected in the Field List for the rotation selected in the Rotation List.

Header

Acre – Calculated acreage total of all defined crops for the field.

Table

Del - Click on red circle to delete the field from the rotation

Crop - The user selects a crop from a pull-down list by clicking in the “Crop” box.

Variety – The user selects a variety based on the crop from a pull-down list by clicking in the “Variety” box.

Acre – User entered number of acres for the selected variety, crop and field.

## 8. Tickets

8.1

8.2

Del	Date	Load	Ticket	variety	Tare Weight	Wet Weight	Moisture	Foreign Matter	Test Weight	Bushel
	10/26/2013	2			0	0	0.0	0.0	60.0	0.000

The scale ticket display consists of a listing of loads harvested from the selected field in the rotation.

8.1. Ticket Data header display area contains information as follows.

Rotation - Selection of the rotation (crop year) to be displayed

Crop - Selection of the crop to be displayed. Only crops defined in the selected rotation will be displayed.

Field - Selection of the field for which loads will be displayed. Only fields defined in the selected rotation and crop will be displayed.

Acres - acreage of the field in the selected rotation.

Bushels - Total dry bushels of all load harvested for the field.

Bushels / Acres - Dry bushels per acre harvested based on the acreage of the field.

Avg. Moisture - average moisture of all loads harvested for the field

8.2. Ticket Data display area contains information as follows.

Date - Date load was harvested.

Load - Load number (Automatically incremented for each load entered).

Ticket - Number/Identification of weigh ticket (Not Required).

Variety - Variety of crop harvested (Not Required). Pull down list is provided of varieties entered in selected rotation

Tare Weight - Tare weight of truck.

Wet Weight - Gross weight of loaded truck.

Moisture - Moisture (%) of crop harvested as measured or from elevator ticket.

Bushels - Calculated dry bushels of crop harvested based on type of crop, moisture and shrink factor.

The red circle to the left of each field is used to field the owner from the system.

The user may "double-click" on any scale ticket to review and/or edit the information in the ticket or to enter a new ticket as shown in the Ticket Detail display shown below.

## 9. Ticket Detail

The screenshot shows a 'Ticket Detail' window with a blue header bar containing 'Rotation: 2014', 'Field: Across from Dick's', and 'Crop: Beans'. Below the header, there are input fields for 'Date: 10/20/2014', 'Load: 3', 'Ticket: ', and 'Variety: '. The main body of the form is divided into three sections. The first section contains 'Tare Weight: 311 3/4 Full' (with a dropdown arrow) and '32430'. The second section contains 'Steering Weight: 0', 'Drive Weight: 0', 'Trailer Weight: 0', and 'Wet Weight: 0'. The third section contains 'Moisture: 0.0', 'Moisture Limit: 13.0', 'Shrinkage: 1.4', and 'Dry Weight: 0'. Below these are 'Foreign Matter: 0.0', 'Foreign Matter Limit: 1.0', 'Foreign Matter Dock: 1.1', and 'FM Weight: 0'. At the bottom of the form are 'Test Weight: 60.0', 'Bushels: 0.000', and two buttons labeled 'Save' and 'New'. At the very bottom of the window are two buttons labeled 'Previous' and 'Next'.

The Ticket Detail is a data entry form that is opened when the user "double-clicks" on a load in the Ticket Display. The Rotation, Field and Crop associated with the ticket are displayed in the banner. All of the ticket information is displayed along with the moisture limit, shrink factor, foreign matter limit and foreign matter dock. Previous and Next buttons are part of the form which allow the user to scroll through the harvested loads. If any information is changed for a load a Save button will be displayed, information that was changed will be lost if the save button is not pressed. A New button is displayed to open a ticket detail data entry form for a new load.

### 9.1. Ticket Data display area contains information as follows.

Date (default is current date)	Dry Weight Total Weight (Calculated)
Load (sequential number)	Foreign Matter
Ticket (optional)	Foreign Matter Limit
Variety (from Crops data)	Foreign Matter Dock
Tare Weight	Foreign Matter Weight (Calculated)
Truck Select or Manual Entry	Test Weight
Steering Weight	Bushels
Drive Weight	Save
Trailer Weight	New
Wet Weight (Calculated)	Previous
Moisture	Next
Moisture Limit	
Shrinkage	

## 10. Field Summary Report

The screenshot shows a software window titled "Reports". Inside, there's a "Choose Report" dropdown menu set to "Field Summary", a "View Report" button, a "Field:" dropdown menu set to "All", a "Crop:" dropdown menu set to "Beans", and an "Include Non-zero" checkbox. Below this is a toolbar with navigation icons, a page indicator "1 of 1", a zoom level of "100%", and "Find | Next" buttons. A callout box labeled "10.1" points to the "Include Non-zero" checkbox. The main content area displays a "Field Summary Report" for "Field: All" and "Crop: Beans". It contains a table with 5 columns: "Rotation", "Acre", "Bushels", "Bushels Per Acre", and "Avg Moisture". The table lists data for rotations 2010 through 2014, followed by a "Totals/Avg:" row. A callout box labeled "10.2" points to the "Totals/Avg:" row.

Rotation	Acre	Bushels	Bushels Per Acre	Avg Moisture
2010	1,081.50	2,801.667	2.591	12.4
2011	1,118.50	2,030.667	1.816	13.1
2012	1,170.50	68,586.674	58.596	13.1
2013	1,171.00	56,528.869	48.274	13.1
2014	1,170.50	70,126.404	59.911	14.0
<b>Totals/Avg:</b>	<b>5,712.00</b>	<b>200,074.280</b>	<b>35.027</b>	<b>13.1</b>

### 10.1. Report Header

Choose Report

Field

Rotation

Owner

Ticket

View Report – after the user selects the appropriate filters click this button to populate the desired report summary.

Field – this is a list of all of the entered field data. Users can choose All or select and individual field.

Crops – this dropdown will show the data from the crop list tab. Users must pick one crop type to filter the report

Include Non-zero -

### 10.2. Field Summary Report display – this windows will display the report with the filters that have been selected

## 11. Rotation Summary Report

**Reports**

Choose Report: **Rotation Summary** View Report Rotation: **All** Crop: **Beans** ☐ Include Non-zero

1 of 1 100% Find | Next

### Rotation Summary Report

Rotation: **All** Crop: **Beans**

Field	Acre	Bushels	Bushels Per Acre	Avg Moisture
Across from Dick's	201.00	5,595.302	27.837	13.2
Benschoter	210.00	4,224.000	20.114	12.3
Bowling Green Road	918.00	22,842.016	24.882	12.8
Bull Creek	600.00	3,476.353	5.794	13.8
Camp	129.00	3,793.982	29.411	13.8
Charlie Ford's	222.00	4,329.673	19.503	12.4
G.G.'s	213.00	1,896.667	8.905	12.2
Gary Wise	156.00	4,688.898	30.057	13.9
Gilliland 25/26	154.00	1,553.721	10.089	13.1
Hanneman	584.00	4,875.383	8.348	15.9
Haylett	384.00	3,140.337	8.178	13.8
Haylett Torok	96.00	1,329.500	13.849	12.5
Haywood 70.5	423.00	7,766.675	18.361	13.5
Haywood 87	522.00	5,064.833	9.703	12.0

### 11.1. Report Header

Choose Report

Field

Rotation

Owner

Ticket

View Report - after the user selects the appropriate filters click this button to populate the desired report summary.

Rotation – user select the year from the dropdown list

Crops – this dropdown will show the data from the crop list tab. Users must pick one crop type to filter the report

Include Non-zero -

### 11.2. Rotation Summary Report display – this windows will display the report with the filters that have been selected

## 12. Owner Summary Report

**Owner Summary Report**

Rotation: All Owner: All Crop: Beans

Field	Acre	Bushels	Bushels Per Acre	Avg Moisture
Across from Dick's	201.00	5,595.302	27.837	13.2
Benschoter	210.00	4,224.000	20.000	12.3
Bowling Green Road	918.00	22,842.016	24.882	12.8
Bull Creek	600.00	3,476.353	5.794	13.8
Camp	129.00	3,793.982	29.411	13.8
Charlie Ford's	222.00	4,329.673	19.503	12.4
G.G.'s	213.00	1,896.667	8.905	12.2
Gary Wise	156.00	4,688.898	30.057	13.9
Gilliland 25/26	154.00	1,553.721	10.089	13.1
Hanneman	584.00	4,875.383	8.348	15.9
Haylett	384.00	3,140.337	8.178	13.8
Haylett Torok	96.00	1,329.500	13.849	12.5
Haywood 70.5	423.00	7,766.675	18.361	13.5
Haywood 87	522.00	5,064.833	9.703	12.0

### 12.1. Report Header

Choose Report

Field

Rotation

Owner

Ticket

View Report - after the user selects the appropriate filters click this button to populate the desired report summary.

Rotation – user select the year from the dropdown list

Crops – this dropdown will show the data from the crop list tab. Users must pick one crop type to filter the report

Owner – user may select All owners or an individual

Include Non-zero -

### 12.2. Owner Summary Report display – this windows will display the report with the filters that have been selected

## 13. Ticket Summary Report

**Ticket Summary Report**

Rotation: 2014      Crop: Beans      Field: All      ☐ Include Non-zero

Date	Load	Ticket	Gross Weight	Tare Weight	Wet Weight	Moisture	FM	Test Weight	Bushel
10/16/2014	1	152851	97500	29,240	68,260	15.5	0.0	60.0	1,097.848
10/16/2014	1	152948	29352.6	0	29,353	0.0	0.0	60.0	489.210
10/16/2014	1	152996	95240	30,480	64,760	15.5	0.0	60.0	1,041.557
10/16/2014	1	153088	96100	32,780	63,320	15.0	0.0	60.0	1,025.784
10/16/2014	1	153257	88640	31,720	56,920	13.8	0.0	60.0	938.042
10/16/2014	1	153560	91460	32,440	59,020	13.0	0.0	60.0	983.667
10/16/2014	1	153601	96620	29,540	67,080	13.4	0.0	60.0	1,111.739
10/21/2014	1	155447	94820	29,140	65,680	16.0	0.0	60.0	1,048.691
10/28/2014	1	329221	88950	31,320	57,630	14.0	0.0	60.0	948.974
10/28/2014	1	329222	90100	31,520	58,580	13.0	0.0	60.0	976.333
10/28/2014	1	329223	91080	31,520	59,560	13.0	0.0	60.0	992.667
10/28/2014	1	329263	93010	31,670	61,340	13.0	0.0	60.0	1,022.333
10/28/2014	1	329264	92490	31,670	60,820	13.0	0.0	60.0	1,013.667
10/29/2014	1	154266	67280	29,860	37,420	14.0	0.0	60.0	614.935

### 13.1. Report Header

Choose Report

Field

Rotation

Owner

Ticket

View Report - after the user selects the appropriate filters click this button to populate the desired report summary.

Rotation – user select the year from the dropdown list

Crops – this dropdown will show the data from the crop list tab. Users must pick one crop type to filter the report

Field – this is a list of all of the entered field data. Users can choose All or select and individual field.

Include Non-zero -

### 13.2. Ticket Summary Report display – this windows will display the report with the filters that have been selected